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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,719	07/28/2006	Tsuyoshi Maegawa	038788.57892US	2032

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EXAMINER
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ROBINSON, LAUREN E

ART UNIT	PAPER NUMBER
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1784

MAIL DATE	DELIVERY MODE
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04/08/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,719	<b>Applicant(s)</b> MAEGAWA, TSUYOSHI	
	<b>Examiner</b> LAUREN ROBINSON	<b>Art Unit</b> 1784	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3, 5 and 7 are rejected under 35 U. S.C. 102(b) as being anticipated, or in the alternative, under 35 U.S.C. 103(a) as obvious over Hayakawa (US PN 5,421,877) cited by applicants'.

**Regarding claim 1:** Hayakawa teaches automotive glass (all) having a ceramic color layer thereon (title) and this meets applicants' limitation of being formed on at least part of the glass. The layer is formed using a ceramic color paste including first and second pigments.

Hayakawa teaches that the first and second pigments may be selected to achieve a desired color and, moreover, the first and second pigments may have different colors, including black and green, with green as a second pigment. (see col. 2,

lines 25-30 and col. 3, lines 7-17) Hayakawa teaches that the first pigment is 5 to 25 wt% of the layer and the second is 3 to 15 wt% of the layer (Col. 3, lines 40-60). This allows for 5wt% first black pigment and 15wt% green giving a ratio of 75wt% green to total 100wt% green and black.

While a specific example using black and green is not disclosed in the above amounts, Hayakawa clearly suggest such combinations and compositions in a limited listing thereby anticipating the mixture.

In the alternative, regarding the pigment combination, it would have been obvious to one having ordinary skill in the art to employ a mixture of black and green pigments, and particularly with green being the second pigment in Hayakawa's layer since Hayakawa suggests such combinations.

Regarding the composition, Hayakawa's taught ranges provide for values overlapping applicants'. As it is known in the art that concentration is result effective where optimization changes physical properties, including color in the present case, one having ordinary skill would find it obvious to optimize the pigment amounts to any value within Hayakawa's ranges and through routine experimentation, desirable results can be obtained. (MPEP 2144.05). Since Hayakawa's ranges provide values overlapping applicants', it would be expected by one having ordinary skill that applicants' ratio will be obtained through routine experimentation of optimizing.

The examiner notes that since the taught ranges do overlap applicants' and would be expected during obvious routine experimentation of optimizing pigment content, it appears that applicants' are merely claiming optimum and workable ranges

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and this is not patentable. According to the MPEP, when the general conditions are within the prior art, it is not inventive to merely discover optimum or workable ranges through routine experimentation and unless evidence showing criticality is established, claimed concentration will not provide patentable weight.. (MPEP 2144.05, In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235(CCPA 1955)). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to optimize Hayakawa's pigment amounts and choose values within the ranges, including applicants, in order to obtain desired results of color, etc.

Hayakawa does not teach the optical properties, but as modified, includes applicants' claimed structure, composition, etc. As it appears that the critical feature for obtaining applicants' properties is the green and black pigment amounts and this is in Hayakawa, it would be reasonably expected by one having ordinary skill, absent an evidentiary showing to the contrary, that the claimed properties would flow from Hayakawa. (MPEP 2112).

**Regarding claims 2-3:** Hayakawa's color paste includes the pigment and low melting point glass frit (abstract). The ratio of pigment to total pigment and frit is 0.08 to 0.40. (col. 2, lines 48-49) which provides frit to pigment ratios overlapping applicants' claimed value. For example, the taught pigment to total ratio corresponds to pigment being 8wt% to 40wt% of the total (100wt%) pigment and frit. This leaves frit in an amount of 92 wt% to 60 wt% of the total and when written in the same terms as applicants' ratio, Hayakawa's teaching allows for frit to total being 92:8 to 60:40. Moreover, Hayakawa's

Example 1 teach ratios of 75:25 which is "about 80:20" as applicants' claimed "about" allows for values slightly below 80:20.

As maintained above, concentration is result effective in which optimization changes physical properties and in the instant case, increased/decreased pigment relative to glass will also change color as above. It would have been obvious to one having ordinary skill to optimize within Hayakawa's ranges and through routine experimentation, desired results can be obtained. Since Hayakawa's range overlaps applicants', it would be expected by one having ordinary skill that through routine optimization within the range, applicants' values will be obtained. As one having ordinary skill would find it obvious to optimize within Hayakawa's range and Hayakawa's taught ranges overlap applicants', it appears applicants' are claiming optimum and workable ranges which is not patentable as discussed above. **Regarding claim 5 and 7:** Hayakawa's green pigment is Cr<sub>2</sub>O<sub>3</sub>. The examples include that no other pigment besides first and second, which will be black and green from above, are needed.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 4 is rejected under 35 U.S.C. 103(a) as being obvious over Hayakawa (US PN 5,421,877) in view of Ubuichi et al. (JP 11-228177) already of record.

As discussed above, Hayakawa teaches applicants' invention of claim 1. The black pigment is CuO-Cr<sub>2</sub>O<sub>3</sub> (Example 1) but Hayakawa fails to teach CuO-Cr<sub>2</sub>O<sub>3</sub>-MnO

Ubuichi teaches that in ceramic color layers comprising pigment and frit on an automotive window glass (0001, examples), CuO-Cr<sub>2</sub>O<sub>3</sub> black pigments are functionally equivalent to CuO-MnO-Cr<sub>2</sub>O<sub>3</sub> (0018).

Hayakawa and Ubuichi disclose analogous inventions related to color layers comprising pigment and frit on automotive glass. As Ubuichi teaches the functional equivalence of CuO-MnO-Cr<sub>2</sub>O<sub>3</sub> and Hayakawa's CuO-Cr<sub>2</sub>O<sub>3</sub> within Hayakawa, it would have been obvious to one having ordinary skill in the art at the time of invention to modify Hayakawa to CuO-Cr<sub>2</sub>O<sub>3</sub>-MnO in place of CuO-Cr<sub>2</sub>O<sub>3</sub> to function as a black pigment.

### ***Response to Arguments***

.Applicant's arguments filed March 15, 2010 regarding the Final Office action being premature is persuasive and the present action is made **Non-Final**.

Applicant's arguments filed March 15, 2010 regarding Hayakawa are not persuasive.

Applicants argue that Hayakawa only discloses black or grey color tones and does not suggest using high green pigment to create color tone. Applicants argue that there would be no motivation to use high green content as claimed within Hayakawa.

This argument is not persuasive. Hayakawa's examples do include final colors of black and/or grey but the examples are not limiting to black and grey. Hayakawa clearly

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suggests mixtures of black and green pigments with the green as the second pigment (col. 2, lines 25-30 and col. 3, lines 7-17). The amount of first black includes a value of 5wt% and the amount of second green includes 15wt% giving a ratio (15:20) of 75wt% green to total 100wt% green and black (Col. 3, lines 40-60). Therefore, there is motivation and teaching to use high green content as claimed.

Applicants argue unexpected results of color tone, 0% transmittance, etc. with their green pigment content. Applicants also argue that their table 1 discloses that black color tone is only obtained using green content outside of the claimed range and since black coloring is desirable within Hayakawa, applicants' green content would not be obtained through routine optimization in Hayakawa. Applicants' unexpected results argument is not persuasive. While applicants' table includes various concentrations of green and black pigments and resulting properties, applicants' have not contrasted their results with those obtained using Hayakawa's mixtures and composition. Applicants' are arguing that their critical feature for their results is only the amount of green and black pigment which is clearly overlapped by Hayakawa's range. Since high amounts of green are allowed by Hayakawa's range, obtaining a green color tone as claimed would not be unexpected. Applicants' argued transmittance would not be unexpected within Hayakawa because Hayakawa discloses that their claimed pigment mixtures at the overlapping amounts provide for concealment and opaqueness (Col 1, lines 5-20 and Col. 2, lines 20-31).

Applicants' argument that green content would not be obtained through routine optimization is not persuasive. Hayakawa does not limit the color to black and therefore,



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does not suggest it being necessary for the green content to be outside of the range.

Hayakawa clearly teaches green pigment content overlapping applicants', and therefore, allows for green color and applicants' values which would be obvious through routine experimentation.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAUREN ROBINSON whose telephone number is (571)270-3474. The examiner can normally be reached on Monday to Thursday 6am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LAUREN ROBINSON/  
Examiner, Art Unit 1794

/Jennifer C. McNeil/  
Supervisory Patent Examiner, Art Unit 1784